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PATENT
514485-3808

DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY
(Includes reference to PCT International Applications)

FROMMER LAWRENCE & HAUG, LLP
File No.: 514485-3808

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor (if plural, names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention ENTITLED:

PENTOPYRANOSYL NUCLEOSIDE, AND PRODUCTION AND USE OF THE SAME

the specification of which:

- is attached hereto
- X was filed on March 20, 2000 as:
 - X United States Application Serial No. 09/509,058
 - X PCT Application No. EP98/05997 filed September 21, 1998
 - X with amendments through DATE EVEN HEREWITH (if applicable, give details).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code § 119 (a) - (d) or § 365 (b) of any foreign application(s) for patent or inventor's certificate, or § 365 (a) of any PCT International application(s) designating at least one country other than the United State of America listed below and have also identified below any foreign application for patent or inventor's certificate or any PCT International applications designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) on which priority is claimed:

Prior Foreign/PCT Application(s) [list additional applications on separate page]:

<u>Country (or PCT)</u>	<u>Application Number:</u>	<u>Filed (Day/Month/Year)</u>	<u>Priority Claimed:</u>	
			<u>Yes</u>	<u>No</u>
Germany	197 41 715.9	22/09/97	X	

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s) or § 365 (c) of any PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior United States or PCT International application(s) in the manner provided by the first paragraph of Title 35, United States Code § 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Prior U.S. (or U.S.-designating PCT) Application(s) [list additional applications on separate page]:

<u>U.S. Serial No.:</u>	<u>Filed (Day/Month/Year)</u>	<u>PCT Application No.</u>	<u>Status (patented, pending, abandoned)</u>
PCT	21/09/98	EP98/05997	pending

I hereby appoint William F. Lawrence, Registration No. 28,029, and FROMMER LAWRENCE & HAUG, LLP or

their duly appointed associates, my attorneys or agents, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to file continuation and divisional applications thereof, to receive the Patent, and to transact all business in the Patent and Trademark Office and in the Courts in connection therewith, and to insert the Serial Number of the application in the space provided above, and specify that all communications about the application are to be directed to the following correspondence address:

William F. Lawrence, Esq.
c/o FROMMER LAWRENCE &
HAUG, LLP
745 Fifth Avenue
New York, NY 10151
FAX (212) 588-0500

Direct all telephone calls to: (212) 588-0800
to the attention of:
William F. Lawrence

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

INVENTOR(S):

Signature:



Date:

8/4/00

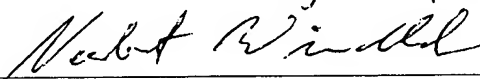
Full name of sole or first joint inventor: Christian Miculka

Residence: ~~Gebeschusstrasse 36, 65929 Frankfurt, Germany~~

Citizenship: Austrian national

Dollnergasse 3/15, 1190 Vienna, Austria

Signature:



Date:


8/5/00

Full name of second joint inventor: Norbert Windhab

Residence: Akazienstrasse 28, 65795 Hattersheim, Germany

Citizenship: German

Signature:



Date:


31.05.00

Full name of third joint inventor: Tilmann Brandstetter

Residence: Westendstr. 154, 80339 München, Germany

Citizenship: German

Signature:



Date:

29.05.2000

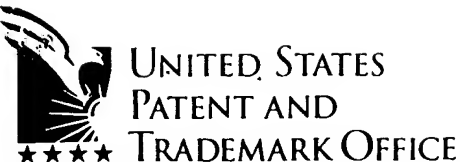
Full name of fourth joint inventor: Gerhard Burdinski

Residence: Johannesweg 2, 56355 Nastätten, Germany

Citizenship: German

Post Office Address(es) of inventors [if different from residence]:

NOTE: In order to qualify for reduced fees available to Small Entities, each inventor and any other individual or entity having rights to the invention must also sign an appropriate separate "Verified Statement (Declaration) Claiming [or Supporting a Claim by Another for] Small Entity Status" form [e.g. for Independent Inventor, Small Business Concern, Nonprofit Organization, Individual Non-Inventor].



JANUARY 07, 2003

O'MELVENY & MYERS LLP
JOHN KAPPOS
114 PACIFICA, SUITE 100
IRVINE, CA 92618-3318

Under Secretary of Commerce For Intellectual Property and
Director of the United States Patent and Trademark Office
Washington, DC 20231
www.uspto.gov



102238665A

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PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/24/2002

REEL/FRAME: 013331/0971
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

AVENTIS RESEARCH & TECHNOLOGIES
GMBH & CO. KG

DOC DATE: 03/08/2002

ASSIGNEE:

NANOGEN RECOGNOMICS GMBH
INDUSTRIAL PARK HOECHST, BUILDING
G 830
FRANKFURT AM MAIN, FED REP
GERMANY
D-65926

SERIAL NUMBER: 09319678
PATENT NUMBER:

FILING DATE: 08/16/1999
ISSUE DATE:

SERIAL NUMBER: 09509051
PATENT NUMBER:

FILING DATE: 06/08/2000
ISSUE DATE:

SERIAL NUMBER: 09509040
PATENT NUMBER:

FILING DATE: 08/03/2000
ISSUE DATE:

013331/0971 PAGE 2

SERIAL NUMBER: 09509058
PATENT NUMBER:

FILING DATE: 07/27/2000
ISSUE DATE:

SERIAL NUMBER: 09509010
PATENT NUMBER:

FILING DATE: 03/20/2000
ISSUE DATE:

SERIAL NUMBER: 09509039
PATENT NUMBER: 6506896

FILING DATE: 07/11/2000
ISSUE DATE: 01/14/2003

SERIAL NUMBER: 09509011
PATENT NUMBER:

FILING DATE: 07/11/2000
ISSUE DATE:

SERIAL NUMBER: 09647829
PATENT NUMBER:

FILING DATE: 01/18/2001
ISSUE DATE:

SERIAL NUMBER: 09762977
PATENT NUMBER:

FILING DATE: 04/19/2001
ISSUE DATE:

SERIAL NUMBER: 09868824
PATENT NUMBER:

FILING DATE: 09/18/2001
ISSUE DATE:

SHAREILL COLES, EXAMINER
ASSIGNMENT DIVISION
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SEP 24 2002

RE JRDA

10-02-2002

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

Docket No.

To the Honorable Commissioner of Patents and Tra.

102238665

al documents or copy thereof.

1. Name of conveying party(ies):

Aventis Research & Technologies GmbH & Co. KG

Additional name(s) of conveying party(ies) attached?

☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment☐ Merge☐ Security Agreement☐ Change of NameExecution Date: March 8, 2002

2. Name and address of receiving party:

Name: Nanogen Recognomics GmbHInternal Address: 9-24-02

City: _____ State: _____ Zip: _____

Street Address: Industrial Park Höchst, Building G 830City: Frankfurt am Main State: Germany Zip: D-65926Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No(s): see attached list

B. Patent No(s): _____

Additional numbers attached? ☒ Yes ☐ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: John KapposInternal Address: O'MELVENY & MYERS LLP
114 Pacifica, Suite 100
Irvine, California 92618-33186. Total number of applications and patents involved: Ten7. Total fee (37 CFR 3.41): \$ 40.00☒ Enclosed☒ Charge this Deposit Account if any additional fee is required8. Deposit Account Number: 50-0639

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9. Statement and signature:

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

John Kappos
John Kappos, Reg. No. 37,861Date: September 19, 2002Total number of pages including cover sheet: 3

OMB No. 0651-0011 (exp. 4/94)

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Box Assignments

Washington, D.C. 20231

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10/01/2002 LUJELLER 00000165 500639 09319678

01 FC:581

360.00 CH

40.00 OP

IR1:497771.1

514435-1001
PATENT

**Patent Applications to be Assigned from Aventis Research & Technologies
GmbH & Co. KG to Nanogen Recognomics GmbH**

Patent Appln.No.	Filing Date
09/319,678	August 16, 1999
09/509,051	June 8, 2000
09/509,040	August 3, 2000
09/509,058	July 27, 2000
09/509,010	July 10, 2000
09/509,039	July 11, 2000
09/509,011	July 11, 2000
09/647,829	January 18, 2001
09/762,977	April 19, 2001
09/868,824	June 21, 2001

51485-1001

PATENT

ASSIGNMENT

Whereas, Aventis Research & Technologies GmbH & Co. KG, 65926 Frankfurt am Main, Germany (hereinafter referred to as Assignor) is the current assignee and owner of the attached list of patent applications.

Whereas Nanogen Recognomics GmbH, a corporation of the Federal Republic of Germany, whose address is, Industriepark Hoechst, 65926 Frankfurt am Main, Germany, (hereinafter referred to as "Assignee") is desirous of securing the entire right, title, and interest in and to the inventions in the United States relating to the attached list of patent applications;

NOW THEREFORE, for good and valuable consideration the receipt of which from assignee is hereby acknowledged, Assignor has assigned to Assignee, its lawful successors and assigns, the entire right, title and interest to the attached list of patent applications and all reissues therefor, and all rights to claim priority on the basis of such patents, and all applications for Letters Patent which may hereafter be or have been filed related to the attached list of patent applications in the United States, and all Letters Patent which may be granted on these inventions in the United States, and all extensions, renewals, and reissues therefor;

AND, Assignor HEREBY covenants that Assignor has the full right to convey the interest assigned by the Assignment, and Assignor will, without further consideration, communicate with Assignee, its successors and assigns, any fact known to Assignor about the attached list of patent applications, and testify in any legal proceeding, sign all lawful when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the titles to these inventions in Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce proper patent protection for these inventions in the United States, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

The effective date of this assignment is March 8, 2002

Aventis Research & Technologies GmbH & Co. KG

Hildebrand
Name: *Hildebrand*
Title: *authorized signatory*

i. v. Rette
Name: *Rette*
Title: *authorized agent*

Date:



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SEPTEMBER 26, 2000

FROMMER LAWRENCE & HAUG LLP
WILLIAM F. LAWRENCE
745 FIFTH AVENUE
NEW YORK, NEW YORK 10151

PTAS
OCT - 2 2000
AMER. LAW. & HAUG, LLP



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RECORDATION DATE: 07/27/2000

REEL/FRAME: 010981/0609
NUMBER OF PAGES: 2

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
MICULKA, CHRISTIAN

DOC DATE: 04/28/2000

ASSIGNOR:
WINDHAB, NORBERT

DOC DATE: 05/08/2000

ASSIGNOR:
BRANDSTETTER, TILMANN

DOC DATE: 05/31/2000

ASSIGNOR:
BURDINSKI, GERHARD

DOC DATE: 05/20/2000

ASSIGNEE:
AVENTIS RESEARCH & TECHNOLOGIES
GMBH & CO. KG
65926 FRANKFURT AM, FED REP GERMANY

SERIAL NUMBER: 09509058
PATENT NUMBER:

FILING DATE: 07/27/2000
ISSUE DATE:

010981/0609 PAGE 2

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ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

IN FORM COVER SHEET
TENTS ONLY09/509058[#]

08-14-2000



101431085

FROMMER LAWRENCE & HAUG LLP
745 Fifth Avenue
New York, New York 10151
(212) 588-0800
File No.: 514485-3808

Applicant : Miculka et al

For : PENTOPYRANSOYL NUCLEOSIDE AND PRODUCTION AND USE OF THE SAME

Filing Date : March 20, 2000

Assistant Commissioner for Patents

1. Name of Conveying Party(ies): 1) Dr. Christian Miculka
2) Dr. Norbert Windhab 3) Dr. Tilmann Brandstetter 4) Dr. Gerhard Burdinski
2. Name and address of receiving party(ies): Aventis Research & Technologies GmbH & Co. KG, 65926 Frankfurt am Germany
3. Nature of Conveyance: Assignment (1)

■ Application No. or Patent No.: 09/509,058

■ ~~This document is being filed together with a new application.~~ The execution date of this Assignment for inventor 1) is April 28, 2000, inventor 2) is May 8, 2000, inventor 3) is May 31, 2000, and 4) is May 20, 2000

5. Name and address of party to whom the recorded assignment and any correspondence concerning document should be mailed:
William F. Lawrence, Registration No. 28,029
Frommer Lawrence & Haug LLP
745 Fifth Avenue
New York, New York 10151

09509058

6. Total number of applications and patents involved: 1
7. Total Fee (37 CFR 3.41): \$ 40.00
☐ Fee enclosed, Check No. 11142
8. ☐ Charge Fee Deposit Account No.: 50-0320 (Attach duplicate copy of this page if paying by deposit account).
If any additional fee is required, authorization is hereby given to charge Deposit Account No. 50-0320.
9. Statement and Signature.
The assignment documents were reviewed and to the best of the assignee's knowledge and belief, title is in the assignee seeking this action.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Name of Person Signing: William F. Lawrence

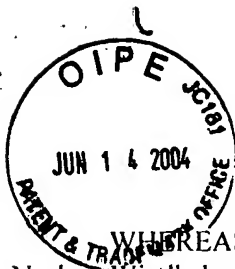
William F. Lawrence, Reg. No. 28,029

Date: July 27, 2000

07/31/2000 ERINWBO 00000099 09509058

03 FC:581

40.00 OP



PATENT
514485-3808

INVENTION/PATENT APPLICATION ASSIGNMENT
FROM INVENTOR(S) TO COMPANY

WHEREAS I/WE Christian Miculka, ~~Gebeschusstrasse 36, 65926 Frankfurt am Main, Germany,~~ ^{Döllneggasse 3/15, 1190 Vienna, Austria}
Norbert Windhab, Akazienstrasse 28, 65795 Hattersheim, Germany, Tilmann Brandstetter, Westendstr. 154,
80339 München, Germany, and Gerhard Burdinski, Johannesweg 2, 56355 Nastätten, Germany,
respectively, have made a certain new and useful invention as set forth in an application for United States
Letters Patent, entitled: **PENTOPYRANSOYL NUCLEOSIDE AND PRODUCTION AND USE OF THE**
SAME, executed by us on the date of execution of this document, as shown below, and filed concurrently
herewith;

OR

for which an application for United States Letters Patent was filed on March 20, 2000, and identified by
United States Serial No. ; 09/509,058

AND WHEREAS, Aventis Research & Technologies GmbH & Co. KG, a corporation organized
under the laws of Germany and having an address of 65926 Frankfurt am Main, Germany, hereinafter
referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention and
in and to any and all Letters Patent of the United States and foreign countries that may be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt for and sufficiency of which
is hereby acknowledged, We do hereby sell, assign, transfer and set over unto said assignee, its legal
representatives, successors, and assigns, the entire right, title and interest in and to said invention as set forth
in the above-mentioned application, including any continuations, continuations-in-part, divisions, reissues,
re-examinations or extensions thereof, and in and to any and all patents of the United States and foreign
countries that may be issued for said invention;

UPON SAID CONSIDERATIONS, We hereby agree with the said assignee that We will not
execute any writing or do any act whatsoever conflicting with these presents, and that We will, at any time
upon request, without further or additional consideration but at the expense of said assignee, execute such
additional assignments and other writings and do such additional acts as said assignee may deem necessary
or desirable to perfect the assignee's enjoyment of this grant, and render all necessary assistance in making
application for and obtaining original, divisional, continuations, continuations-in-part, reexamined, reissued,
or extended Letters Patent of the United States or of any and all foreign countries on said invention, and in
enforcing any rights or choses in action accruing as a result of such applications or patents, by giving
testimony in any proceedings or transactions involving such applications or patents, and by executing
preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement
shall bind, and inure to the benefit of the assigns and legal representatives of assignor and assignee;

AND We request the Commissioner of Patents and Trademarks to issue any Letters Patent of the
United States that may be issued for said invention to said assignee, its legal representatives, successors or
assigns, as the sole owner of the entire right, title and interest in and to said patent and the invention covered
thereby.

Date

28.04.00

Date

8/05/00

Date

31.05.00

Date

20.05.2000

Signature: Christian Miculka

Signature: Norbert Windhab

Signature: Tilmann Brandstetter

Signature: Gerhard Burdinski